

Abstract Submitted
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Overview of KSTAR 1st Plasma Campaign¹ SI-WOO YOON, S.H. HAHN, National Fusion Research Institute, Y.S. BAE, W.C. KIM, J. KIM, Y.K. OH, J.Y. KIM, H.L. YANG, National Fusion Research Insititute, D. MUELLER, Princeton Plasma Physics Laboratory, J.A. LEUER, D.A. HUMPHREYS, A.W. HYATT, N.W. EIDIETIS, G.L. JACKSON, M.L. WALKER, General Atomics, KSTAR TEAM — For the 1st discharge of KSTAR, the available poloidal magnetic flux and the loop voltage from the PF coils are limited and therefore, the 2nd harmonic (84 GHz, 500kW) ECH is introduced for reliable breakdown and providing an additional plasma heating during the current ramp-up and the initial field-null configuration is optimized to maximize the plasma current with significant charging-up of the outer poloidal coils. During the campaign, the maximum achievable plasma current is around 130kA in circular-shaped discharges with a relatively low gas-puff to minimize the resistive Vs consumption. In this work, several aspects during KSTAR 1st campaign will be addressed briefly including breakdown and current ramp-up, scan of ECH pre- ionization, MHD signature and the effect of ECH, and the discharge reproducibility issues.

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